Sherwood NEWCASTLE

OPERATING INSTRUCTIONS

A-965

7-CH Power Amplifier

Introduction

READ THIS BEFORE OPERATING YOUR UNIT

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Note to CATV System Installer :
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as pracitcal.

FCC INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FOR YOUR SAFETY

U.S.A CANADA	**120 V**	Units shipped to the U.S.A and Canada are designed for operation on 120 V AC only. Safety precaution with use of a polarized AC plug. However, some products may be supplied with a nonpolarized plug. **CAUTION** : To prevent electric shock, match wide blade of plug to wide slot, fully insert. **ATTENTION** : Pour éviter chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu' au fond.

- Avoid high temperatures. Allow for sufficient heat dispersion when installed on a rack.
- Keep the set free from moisture, water, and dust.
- Do not let foreign objects in the set.
- Handle the power cord carefully. Hold the plug when unplugging the cord.
- Unplug the power cord when not using the set for long periods of time.
- Do not obstruct the ventilation holes.
- Do not let insecticides, benzene, and thinner come in contact with the set.
- Never disassemble or modify the set in any way.

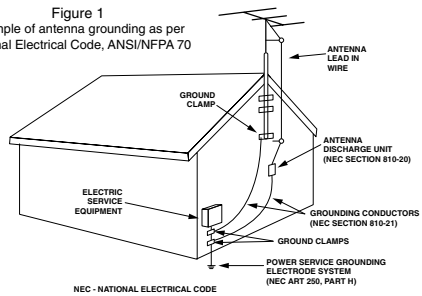
SAFETY INSTRUCTION

1. **Read Instructions** - All the safety and operating instructions should be read before the product is operated.
2. **Retain instructions** - The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
4. **Follow Instructions** - All operating and use instructions should be followed.
5. **Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. **Water and Moisture** - Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement, or near a swimming pool; and the like.
8. **Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

PORTABLE CART WARNING

10. **Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. **Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12. **Grounding or Polarization** - This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
    Alternate Warnings - This product is equipped with a three-wire grounding-type plug, a plug having a third(grounding) pin. This plug will only fit into a grounding-type power outlet. this is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
13. **Power-Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
14. **Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

Figure 1
Example of antenna grounding as per National Electrical Code, ANSI/NFPA 70


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC - NATIONAL ELECTRICAL CODE

15. **Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
16. **Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. **Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
18. **Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
19. **Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20. **Damage Requiring Service** - Unplug this product form the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the power-supply cord or plug is damaged,
    b) If liquid has been spilled, or objects have fallen into the product,
    c) If the product has been exposed to rain or water,
    d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
    e) If the product has been dropped or damaged in any way, and
    f) When the product exhibits a distinct change in performance - this indicates a need for service.
21. **Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
22. **Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
23. **Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
24. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

ENGLISH

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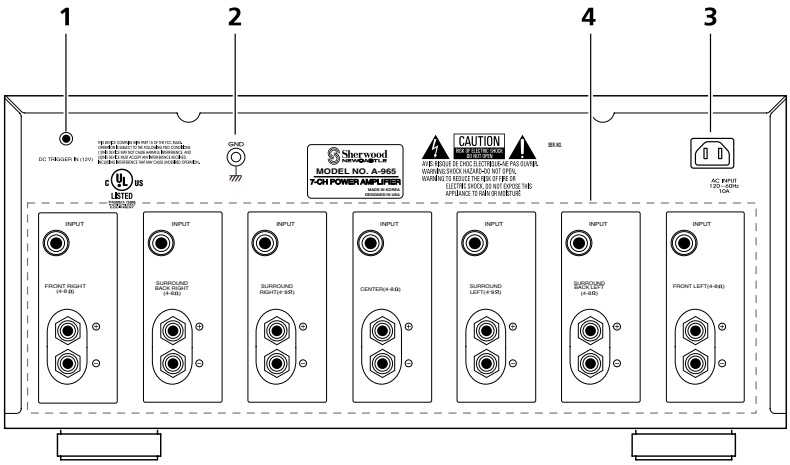
System Connections

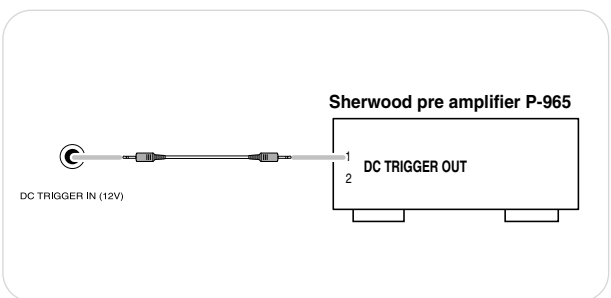
- Please be certain that this unit is unplugged from the AC outlet before making any connections.
- Be sure to observe the color coding when connecting the pre amplifier and speakers to this unit.
- Make connections firmly and correctly. If not, poor connections can cause loss of sound, noise or damage to the unit.
- For connections between this unit and the Sherwood compatible pre amplifier such as P-965, refer to the system connections in the operating instructions of that.

Notes:
- Do not place other equipment on top of this unit so that the radiated heat can be properly dispersed.
- When installing in racks, etc., leave more than 30 cm(12˝) of space at the top.



1. DC TRIGGER IN

In case that this unit is connected to Sherwood pre amplifier P-965, connect this jack to the “1” jack of DC TRIGGER OUTs of P-965 directly for system power control.
(For details, refer to the operating instructions of P-965.)
Note:
- When making DC TRIGGER connection, you should use the stereo mini cord supplied with this unit, not a mono mini cord.

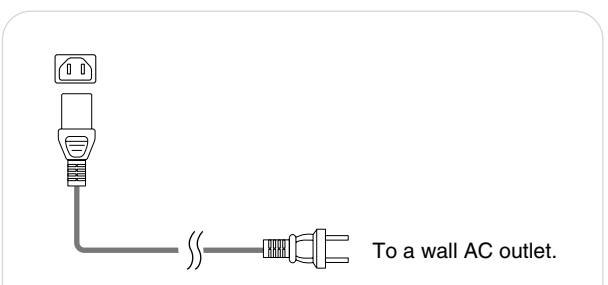


2. GROUND TERMINAL

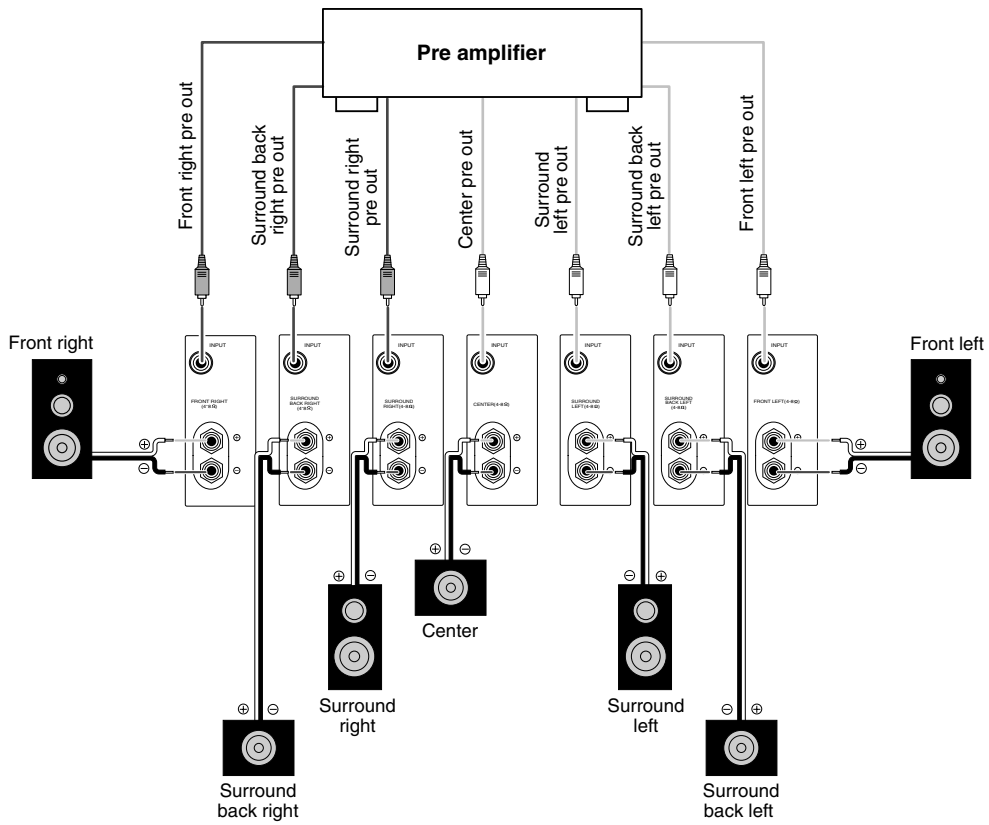
If necessary, connect this terminal to the “GND” of other component.

3. AC INLET

Plug the supplied AC input cord into this AC INLET and then into the wall AC outlet.
Note:
- Do not use an AC input cord other than the one supplied with this unit. The AC input cord supplied is designed for use with this unit and should not be used with any other device.



4. CHANEL INPUTs and SPEAKER TERMINALs



- Be sure to connect speakers firmly and correctly according to the channel (left and right) and the polarity(+ and -). If the connections are faulty, no sound will be heard from the speakers, and if the polarity of the speaker connections is incorrect, the sound will be unnatural and lack bass.
- Only when enjoying either 6.1 or 7.1 channel surround playback, connect either the surround back left speaker only or both of surround back speakers.
- To emphasize the deep bass sounds, connect a powered subwoofer to the pre amplifier such as Sherwood P-965 not to this power amplifier. (For details, refer to the operating instructions of the pre amplifier.)
- For installing the speakers, refer to “VARIOUS CONNECTIONS OF SPEAKER CORDS” on page 7 and “SPEAKER PLACEMENT” on page 8.
- After installing the speakers, first adjust the speaker settings on your pre amplifier according to your environment and speaker layout.(For details, refer to the operating instructions of the pre amplifier.)

CAUTION

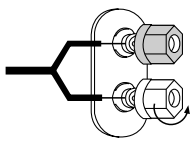
- Be sure to use the speakers with the impedance of 4~8Ω.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and / or the speakers.

VARIOUS CONNECTIONS OF SPEAKER CORDS

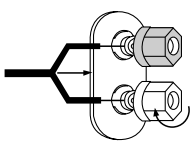
General connection using the bare cords

1. Carefully strip about 10 mm(3/8″) of insulation and twist the wire tip.

2. Loosen the knob and insert the wire.

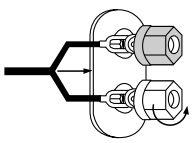


3. Tighten the knob to fix the wire in place.

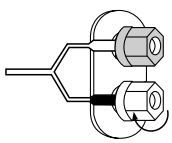


Connection using the spade plugs

1. Loosen the knob and insert the spade plug.

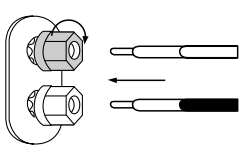


2. Tighten the knob to fix.

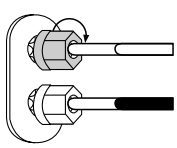


Connection using the banana plugs

1. Tighten the knob.



2. Insert the plug fully into the hole on the knob.



SPEAKER PLACEMENT

Ideal speaker placement varies depending on the size of your room and the wall coverings, etc. The typical example of speaker placement and recommendations are as follows :

■ Front left and right speakers and center speaker

- Place the front speakers with their front surfaces as flush with TV or monitor screen as possible.
- Place the center speaker between the front left and right speakers and no further from the listening position than the front speakers.
- Place each speaker so that sound is aimed at the location of the listener's ears when at the main listening position.

■ Surround left and right speakers

- Place the surround speakers approximately 1 meter(40 inches) above the ear level of a seated listener on the direct left and right of them or slightly behind.

■ Surround back left and right speakers

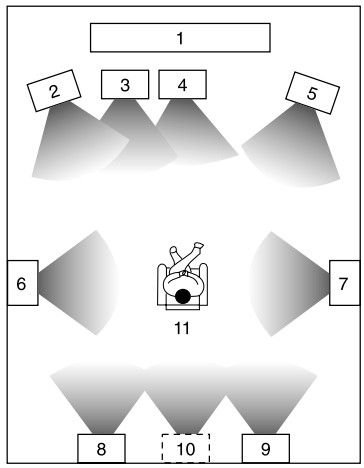
- Place the surround back speakers at the back facing the front at a narrower distance than the front speakers.
- When using a single surround back speaker, place it at the rear center facing the front at a slightly higher position(0 to 10 inches) than the surround speakers.
- We recommend installing the surround back speaker at a slightly downward facing angle. This effectively prevents the surround back channel signals from reflecting off the TV or screen at the front center, resulting in interference and making the sense of movement from the front to the back less sharp.

■ Subwoofer

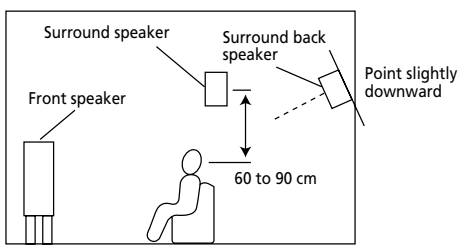
- The subwoofer reproduces powerful deep bass sounds. Place a subwoofer anywhere in the front as desired.

■ Notes :

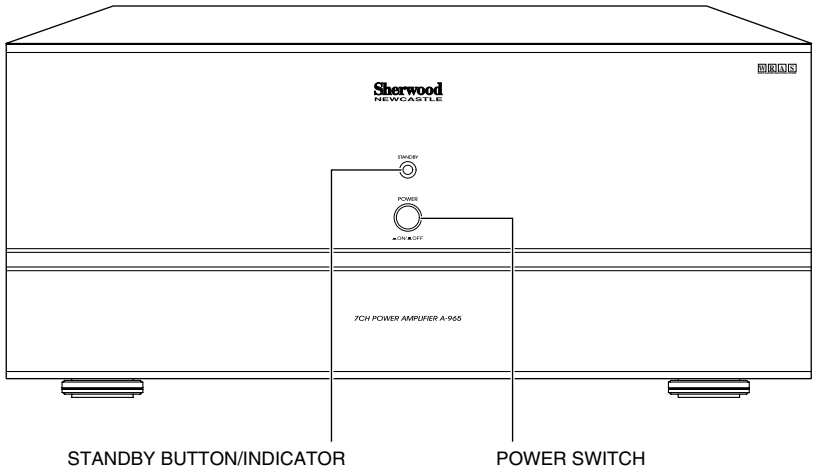
- When using a conventional TV , to avoid interference with the TV picture, use only magnetically shielded front left and right and center speakers.
- To obtain the best surround effects, the speakers except the subwoofer should be full range speakers.



1. TV or screen
2. Front left speaker
3. Subwoofer
4. Center speaker
5. Front right speaker
6. Surround left speaker
7. Surround right speaker
8. Surround back left speaker
9. Surround back right speaker
10. Surround back center speaker
11. Listeing position



Front Panel Controls



Operations

1 To enter the standby mode.

- The STANDBY button lights up in amber. This means that the unit is connected to an AC outlet and a small amount of current is retained to support operation readiness.
- To switch the power off, push the POWER switch again. Then the power is cut off and the STANDBY button goes off.

2 In the standby mode, turn the power on.

- The STANDBY button lights up in blue, the unit turns on and enters the operating mode. Sound can be heard from the speakers in a few seconds.

3 In the operating mode, to enter the standby mode.

- The STANDBY button lights up in amber.

■ Note on system power control

If the DC TRIGGER connection is made between this unit and Sherwood pre amplifier P-965, this unit will be switched between the standby mode and the operating mode automatically each time P-965 is switched between these modes.
(For details, refer to the operating instructions of P-965.)

Troubleshooting Guide

If a fault occurs, run through the table below before taking your unit for repair.
If the fault persists, attempt to solve it by switching the unit off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you repair the unit yourself as this could invalidate the warranty!

PROBLEM	POSSIBLE CAUSE	REMEDY
No power	• The AC input cord is disconnected. • Poor connection at AC wall outlet or the outlet is inactive.	• Connect the cord securely. • Check the outlet using a lamp or another appliance.
No sound	• Speaker cords are disconnected. • Incorrect connections between the components. • Incorrect operation of the pre amplifier.	• Check the speaker connections. • Make connections correctly. • Check the functions of the pre amplifier and operate correctly.
No sound from one channel	• Speaker cords are connected incorrectly or incompletely. • Incorrect connections between the components. • Defective speaker.	• Check the speaker connections and reconnect them. • Make connections correctly. • Check the speaker and repair it or replace by new one.
Excessive hum at normal volume level	• The hum is induced from other components. • Defective connection cords.	• Place the power amplifier away from the pre amplifier and the record player. • Replace by new ones.
Distorted sound	• The power amplifier overdriven. • Too low impedance speakers are connected.	• Decrease the volume on the pre amplifier. • Check the speakers and use the speakers with the impedance of 4~8Ω.

Specifications

ENGLISH

• Amplifier Section

Power output, stereo mode, 8 Ω, THD 0.02 %, 1 kHz **l 2×125 W**

4 Ω, THD 0.02 %, 1 kHz **l 2×170 W**

7-CH mode(full channel driven), 8 Ω, THD 0.02 %, 1 kHz **l 7×100 W**

4 Ω, THD 0.02 %, 1 kHz **l 7×150 W**

7-CH mode(only channel driven), 8 Ω, THD 0.02 %, 1 kHz **l 130 W/CH**

4 Ω, THD 0.02 %, 1 kHz **l 200 W/CH**

Total harmonic distortion, 8 Ω, 125 W, 1 kHz **l 0.02 %**

Intermodulation distortion

60 Hz : 7 kHz= 4 : 1 SMPTE, 8 Ω, 125 W **l 0.01 %**

Input sensitivity, 47 kΩ **l 1.0 V**

Signal to noise ratio, IHF “A” weighted

100 W, 8 Ω, 0 dB **l 115 dB**

1 W, 8 Ω, 0 dB **l 100 dB**

Frequency response, 20 Hz~100 kHz **l +0, -1 dB**

Damping factor **l 100**

• General

Power supply **l 120 V~60 Hz**

Power consumption **l 10 A**

Dimensions (W×H×D) **l 440×196×450 mm(17-3/8×7-3/4×17-3/4 inches)**

Weight (Net) **l 32 kg (70.6 lbs)**

Note: Design and specifications are subject to change without notice for improvements.

A-965

7-CH Power Amplifier

Sherwood
NEWCASTLE

5707-04746-001-0